

AMENDMENTS TO THE CLAIMS

Please amend Claim 31 and add new Claims 45-48 as follows.

LISTING OF CLAIMS

1.-30. (cancelled)

31. (currently amended) An air conditioning apparatus for a vehicle having a passenger compartment, said air conditioning apparatus comprising:

a case forming an air passage, said case defining a bottom portion; and

a cooling heat exchanger, for cooling air passing therethrough, disposed in said case, wherein:

said cooling heat exchanger includes:

a core portion having a plurality of tubes extending in a longitudinal direction, through which a fluid flows to perform a heat exchange with air, and

a tank portion for distributing the fluid into said tubes or for joining the fluid from said tubes, said tank portion being provided on one end of each tube in the longitudinal direction;

said cooling heat exchanger is disposed in said case to be inclined from a horizontal direction by a predetermined angle to define an upper end and a lower end so that air is introduced into said cooling heat exchanger from below and flows upwardly, said lower end of said cooling heat exchanger being spaced from said bottom portion of said case to form a lower space under said cooling heat exchanger;

said tank portion is positioned at said lower end of cooling heat exchanger;

said cooling heat exchanger is inclined in the same direction as the longitudinal direction of said tubes so that one end of said tubes in the longitudinal direction becomes lower than the other end of said tubes in the longitudinal direction;

said cooling heat exchanger is disposed so that a flow direction of air flowing into said lower space under said cooling heat exchanger is generally parallel to said cooling heat exchanger and approximately perpendicular to the longitudinal direction of said tubes;

said case has an air inlet through which said air is introduced into said lower space under said cooling heat exchanger, approximately horizontally; [[and]]

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said cooling heat exchanger is disposed at an upper side of said air inlet, said air introduced through said air inlet being directed to a position directly under [[said]] the entire core portion but not to a position directly under said tank portion such that condensed water collected on said tank portion is not disturbed by said air introduced through said air inlet[.]] ; and

said air inlet is opened and extended to a position proximate to a boundary between said core portion and said tank portion in the longitudinal direction of the tubes.

32. (previously presented) The air conditioning apparatus according to Claim 31, wherein:

said case has a drain hole for draining condensed water generated in said cooling heat exchanger; and

said drain hole is provided generally beneath said lower end of said cooling heat exchanger.

33. (previously presented) The air conditioning apparatus according to Claim 31, wherein:

said bottom portion is inclined to correspond to said cooling heat exchanger; and

the drain hole is provided at a lowest position of said bottom portion.

34. (previously presented) The air conditioning apparatus according to Claim 33, wherein said air inlet is provided between said cooling heat exchanger and said bottom portion in an up-down direction.

35. (previously presented) The air conditioning apparatus according to Claim 31, further comprising:

a heating heat exchanger for heating air from said cooling heat exchanger, said heating heat exchanger being disposed on an upper side of said cooling heat exchanger, so that a bypass passage through which air bypasses said heating heat exchanger is provided; and

an air mixing door, disposed between said cooling heat exchanger and said heating heat exchanger, for adjusting a ratio between an amount of air passing through said heating heat exchanger and an amount of air passing through said bypass passage.

36. (previously presented) The air conditioning apparatus according to Claim 31, further comprising:

a blower unit for blowing air into said case,

wherein said blower unit is disposed so that air blown by said blower unit flows approximately horizontally into said lower space under said cooling heat exchanger through said air inlet.

37. (previously presented) The air conditioning apparatus according to Claim 31, wherein the air inlet has a dimension approximately equal to the tubes in the longitudinal direction.

38.-44. (cancelled)

45. (new) The air conditioning apparatus according to Claim 31, further comprising:

a heating heat exchanger disposed approximately horizontally in the case at an upper side of the cooling heat exchanger, wherein:

the case has a face opening through which air is blown toward an upper side in the passenger compartment, a defroster opening through which air is blown toward an inner surface of a front windshield, and a foot opening through which air is blown toward a lower side in the passenger compartment;

the face opening, the defroster opening and the foot opening are provided in the case at an upper side of the heating heat exchanger and downstream of the heating heat exchanger;

the face opening and the defroster opening are opened while being arranged approximately in an inclined direction of the cooling heat exchanger; and

the face opening is opened at an inclined lower side of the cooling heat exchanger, with respect to the defroster opening.

46. (new) The air conditioning apparatus according to Claim 45, wherein the heating heat exchanger is disposed in the case to form a bypass passage at a vehicle rear side of the heating heat exchanger, through which air after passing through the cooling heat exchanger flows while bypassing the heating heat exchanger.

47. (new) The air conditioning apparatus according to Claim 31, wherein the air inlet is opened in the longitudinal direction of the cooling heat exchanger to extend approximately in a dimension range of the core portion in the longitudinal direction.

48. (new) An air conditioning apparatus for a vehicle having a passenger compartment, said air conditioning apparatus comprising:

a case forming an air passage, said case defining a bottom portion; and

a cooling heat exchanger, for cooling air passing therethrough, disposed in said case, wherein:

said cooling heat exchanger includes:

a core portion having a plurality of tubes extending in a longitudinal direction, through which a fluid flows to perform a heat exchange with air, and

a tank portion for distributing the fluid into said tubes or for joining the fluid from said tubes, said tank portion being provided on one end of each tube in the longitudinal direction;

said cooling heat exchanger is disposed in said case to be inclined from a horizontal direction by a predetermined angle to define an upper end and a lower end so that air is introduced into said cooling heat exchanger from below and flows upwardly, said lower end of said cooling heat exchanger being spaced from said bottom portion of said case to form a lower space under said cooling heat exchanger;

said tank portion is positioned at said lower end of cooling heat exchanger;

said cooling heat exchanger is inclined in the same direction as the longitudinal direction of said tubes so that one end of said tubes in the longitudinal direction becomes lower than the other end of said tubes in the longitudinal direction;


said cooling heat exchanger is disposed so that a flow direction of air flowing into said lower space under said cooling heat exchanger is generally parallel to said cooling heat exchanger and approximately perpendicular to the longitudinal direction of said tubes;


said case has an air inlet through which said air is introduced into said lower space under said cooling heat exchanger, approximately horizontally;

said cooling heat exchanger is disposed at an upper side of said air inlet, said air introduced through said air inlet being directed to a position directly under said

core portion but not to a position directly under said tank portion such that condensed water collected on said tank portion is not disturbed by said air introduced through said air inlet;

said cooling heat exchanger is disposed to approximately contact said case at an immediate upper position of said air inlet;

 said case has an end peripheral portion for defining ^{the upper side} said air inlet on an upper side; and

 said end peripheral portion of said case extends obliquely downwardly along a surface immediately under said cooling heat exchanger, and further extends downwardly toward the bottom portion to ^{the} a boundary between said core portion and said tank portion.
